


Thermo Scientific SureTect PCR System Visibly simple food pathogen testing

 The world leader in serving science





Our Mission is our purpose:

To enable our customers to make the world healthier, cleaner and safer

Healthier

We make a positive impact on human health by providing our customers with advanced technologies and expertise to deliver breakthrough medicines and diagnostics that improve lives worldwide. Our customers rely on us to help them achieve the impossible.

Cleaner

We empower our customers with the tools to understand and address climate change, develop greener technologies and to help ensure the quality of air and water that sustains all life. As their partner, we are working with our customers to preserve our planet for future generations.

Safer

From products that detect contamination in food, to instruments that help solve crimes and identify potential threats, we provide the solutions that enable our customers to protect our communities. Together, we are determined to create a safer world.



Expertise you can rely on



\$1.3B

Invested in R&D



1,000+

Large and small molecules
manufactured



8,200+

Clinical trials
supported in 2022



7,000+

R&D scientists/
engineers



120,000+

Colleagues



\$40B+

In revenue

A legacy of
partnership

High-impact
innovation

Your Success

Differentiated
offering and
support

Driving
productivity

Commitment
to sustainable
solutions

Our unique value proposition

Enabling your success –
**We help our customers accelerate
innovation and drive productivity,
underpinned by quality.**

Industry-leading brands working for you

You push the boundaries of innovation, while we support with our unmatched portfolio, depth of capabilities, and comprehensive services through these evolving product and service brands.

ThermoFisher
SCIENTIFIC

thermo
scientific

Analytical precision
and diagnostics
excellence

applied
biosystems

Inspiring meaningful
genetic analysis

unity
lab services

Instrument and
enterprise services

F **fisher**
scientific

One-stop access for
scientific products

invitrogen

Accelerating
discovery research

gibco

Cell culture, media
and reagents

PPD

Drug development
and clinical trials

patheon

Pharma services



Visibly simple food pathogen testing

**Thermo Scientific™ SureTect™ PCR System –
simple, rapid workflows designed to get results**

With our comprehensive portfolio of assays combined with world-class instrumentation, you can confidently perform food safety tests knowing exactly what you are getting – quality combined with simplicity.



Streamlined handling

Ready-to-use reagents and ergonomically designed tools for easy handling



Fail safe

Color-coded plates and reagents to keep you on track



Smart instrumentation

Automated sample preparation, lysis, test set-up and result interpretation

SureTect PCR Workflow

Simplified for productivity

8-24
hours



Single enrichment
step

One workflow for all
pathogen targets

Flexibility for 1 to 96 tests in
each run

17
minutes



Sample preparation
and lysis

Ready-to-use and pre-
dispensed reagents

Report negatives
within 1 day

~ 80
minutes

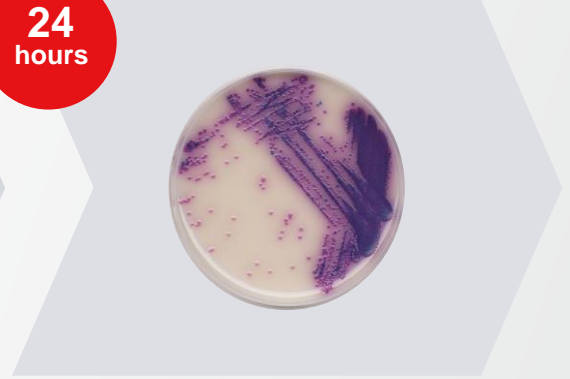


Run, read and report
PCR-negative results

Test multiple pathogens
simultaneously

Simple, rapid confirmation
tests for PCR-positives

24
hours



Report/confirm
PCR-positive results

Complete pathogen detection in a single assay

SureTect Lysis Plate
Pre-filled with Lysis Reagent 1

Lysis Reagent 2
Listeria & S. aureus kits only

Pierceable Seals

Blue Proteinase K Reagent

SureTect PCR Assay Plate

Optical PCR Caps



Breadth of matrices for AFNOR validated protocols



All food (25g) including:								High sample size:				
	Meat	Dairy	Fruits & vegetables	Seafood	RTE/RTH	Environmental samples	PPS	Meat (excl. Poultry)	Cocoa-based products	Fruits and Veg	PIF and milk powder	Pet food and animal feed
<i>Salmonella</i> species												
<i>Listeria</i> species												
<i>Listeria monocytogenes</i>												
STEC												
<i>E.Coli</i> O157:H7	Beef											
<i>Cronobacter</i>												
RapidFinder <i>Salmonella</i> spp. <i>Enteritidis</i> , <i>Typhimurium</i>	Pork & Poultry				Pork & Poultry							

Breadth of matrices for AOAC validated protocols



Broad range of food (25g) including:						
	Meat	Dairy	Fruits & vegetables	Seafood	RTE/RTH	Environmental samples
<i>Salmonella</i> species						
<i>Listeria</i> species						
<i>Listeria monocytogenes</i>						
STEC	Beef					
<i>E. coli</i> O157:H7						
<i>Cronobacter</i> spp.						Coming soon!
RapidFinder <i>Salmonella</i> spp. <i>Enteritidis, Typhimurium</i>	Pork & Poultry				Pork & Poultry	
<i>Vibrio</i> multiplex				125g		
<i>Campylobacter</i> multiplex						
<i>Staphylococcus aureus</i>		100g				
SureCount <i>Salmonella</i> spp. <i>Enteritidis, Typhimurium</i>	Beef & Pork					

Breadth of matrices for AOAC validated protocols



High sample size:						Other:	
	PIF and milk powder	All meat (ex-poultry)	Cocoa-based products	Fruits & vegetables	Pet food & animal feed	Poultry products/carcass rinses	20 shell eggs
<i>Salmonella</i> species	Coming soon!	Coming soon!			Coming soon!	Coming soon!	
<i>Listeria</i> species							
<i>Listeria monocytogenes</i>							
STEC		Beef					
<i>E. coli</i> O157:H7		Beef					
<i>Cronobacter</i> spp.	Coming soon!						
RapidFinder <i>Salmonella</i> spp. <i>Enteritidis</i> , <i>Typhimurium</i>							
<i>Vibrio</i> multiplex							
<i>Campylobacter</i> multiplex						325g; 25g nuggets; carcass sponge	
<i>Staphylococcus aureus</i>							
SureCount <i>Salmonella</i> spp. <i>Enteritidis</i> , <i>Typhimurium</i>							

SureTect PCR Assay workflow innovation

Innovation across the complete workflow



New plastics



Color indicator in Proteinase K



Pierceable Lysis Seal



Workflow Tools



Workflow tools

Ultimate handling and ease-of-use

PCR Strip Cutting Tool

- Safely & Easily cut strips using the Strip Cutting Tool

Capping and Uncapping Tools

- Cap & uncap tubes with ease and simplicity

96-Well Base and trays

- Set samples up securely
- Transfer in a single move to instruments



Colour Indicator for Proteinase K



Increased Confidence

- Reduce the risk of human error
- Clear Lysis Reagent pre-filled into Lysis Plate tubes
- Blue Proteinase K reagent enables visual tracking of pipetted wells



Pierceable seals for Lysis Tubes



Increased convenience and Efficiency

- Reduce handling steps with pierceable seals
- Single step for sealing Lysis Tubes
- Remove lysate aliquot with no need for decapping



New Lysis and PCR plates



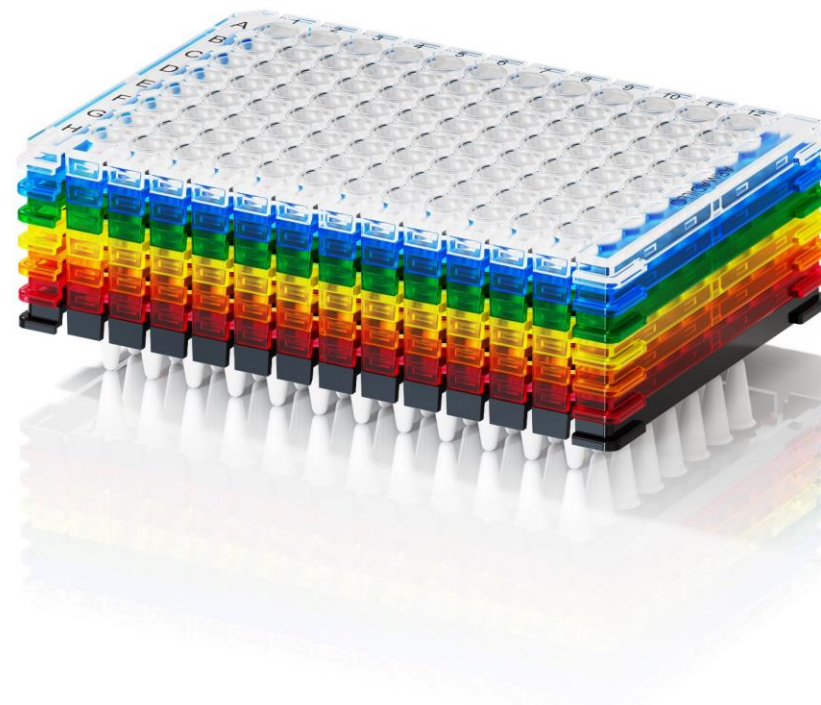
Reduce risk of human error

- Color-coded assay plates to target pathogen
- Clear orientation on plates



Optimize Handling

- Safely and easily break plates into strips by hand
- Easy to remove seals



SureTect PCR Assay manual workflow



Enrichment



Using stepper pipette, add 10 μ L of Proteinase K Reagent to Lysis Tubes



Add 10 μ L of sample enrichment



10 minutes at 37°C then 5 minutes at 95°C



Multi-channel pipette



Transfer 20 μ L of DNA lysate to PCR tube



Vortex for 10 seconds
Flick to remove droplets



Run PCR

SureTect PCR Assay workflow improvements

Sample Lysis



Workflow step

Separate desired number of Lysis Tubes

Remove seal from Lysis Tubes

Add Proteinase K and sample to Lysis Tubes

Seal tubes with 96-well Pierceable Seals or Lysis Tube Caps, domed

Incubate the Lysis Tubes in the Applied Biosystems™ SimpliAmp™ Thermal Cycler

Workflow benefits

- Easily break Lysis Tube Plates into Strips by hand
- Split Tube Strips with the PCR Strip Cutting Tool

- 96-well PCR Base for stability during pipetting steps
- Easier-to-remove Lysis Tube seal

- Blue reagent - easy to track pipetted wells
- Plate orientation for better traceability

- 96-well Pierceable Seals for fast, easy sealing
- Alternative: PCR Capping Tool for fast cap application

- SimpliAmp Thermal Cycler tray enables easy transfer to instrument

SureTect PCR Assay workflow improvements

PCR Step



Workflow step

Remove aliquot from Lysis Tube

Transfer to PCR Tube and cap PCR Tubes

Load PCR Tubes into Applied Biosystems™ QuantStudio™ 5 Food Safety Real-Time PCR System—Run and review results

Workflow benefits

- Pipette directly through the 96-well Pierceable Seal for reduced handling step
- Optional: Lysis tube Uncapping Tool for easy cap removal

- PCR plates color-coded to target
- Breakable PCR Assay Plate format for flexibility
- Plate orientation markings for traceability

- Applied Biosystems™ QuantStudio™ 5 Strip Plate Tray enables easy transfer of PCR Tubes into the instrument

SureTect Automation Workflow

Reduce hands-on time, whilst increasing the accuracy and reproducibility of your results, with fully automated lysis and PCR preparation



Time Saving

Rapid set-up and walk-away automation minimizes hands-on time in your workflow.



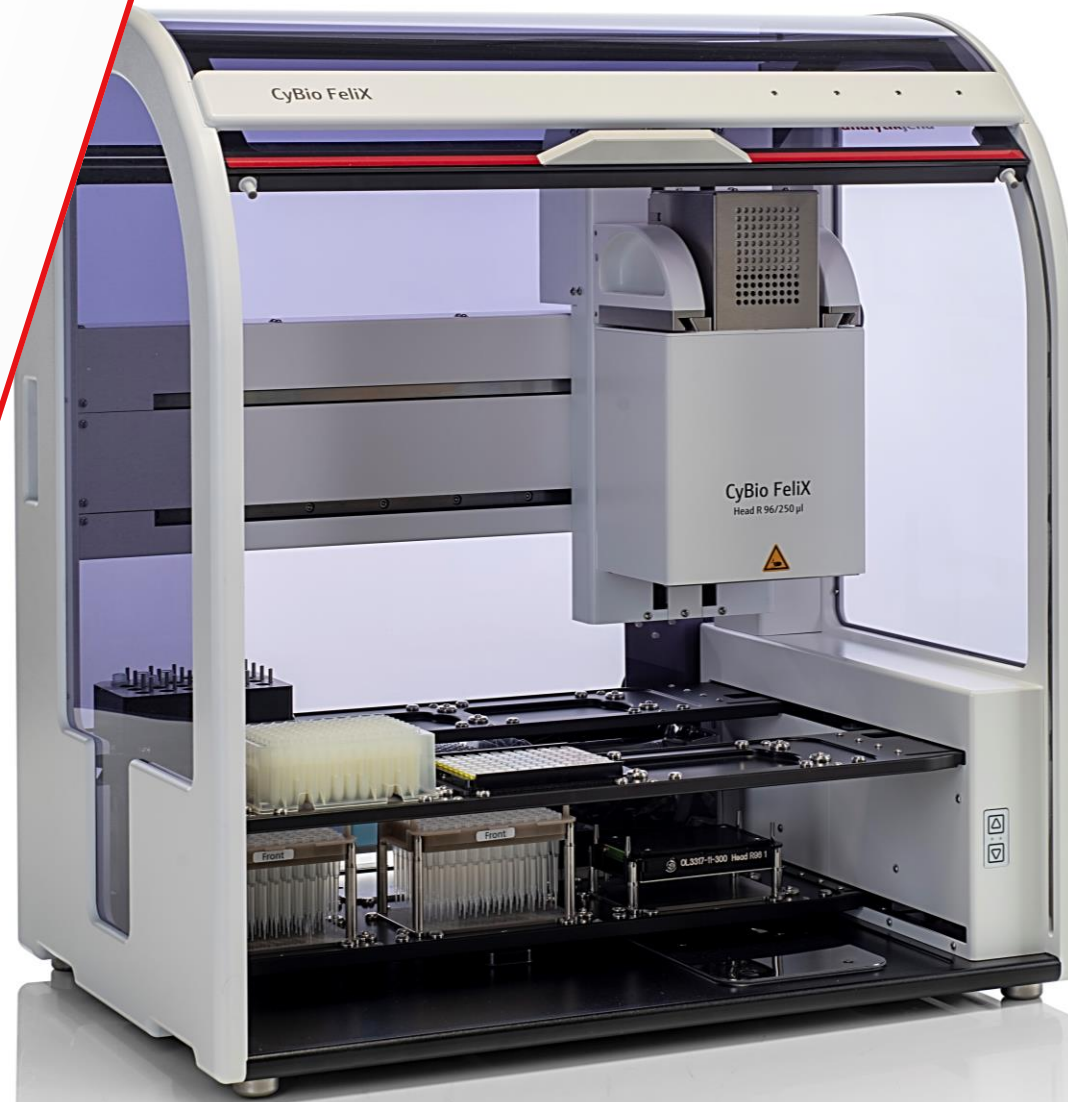
Accurate

Precise pipetting reduces the risk of human error, improving the reproducibility of results.



Flexible

Up to 6 assays/96 samples per run, with the choice to automate lysis, PCR setup or the complete workflow.



Your laboratory workflow challenges

Why choose automation?

User
insight

1. Reduce hands-on time & increase efficiency

2. Increase accuracy and reproducibility

3. Cost and resource savings

4. Simplify usability of the workflow

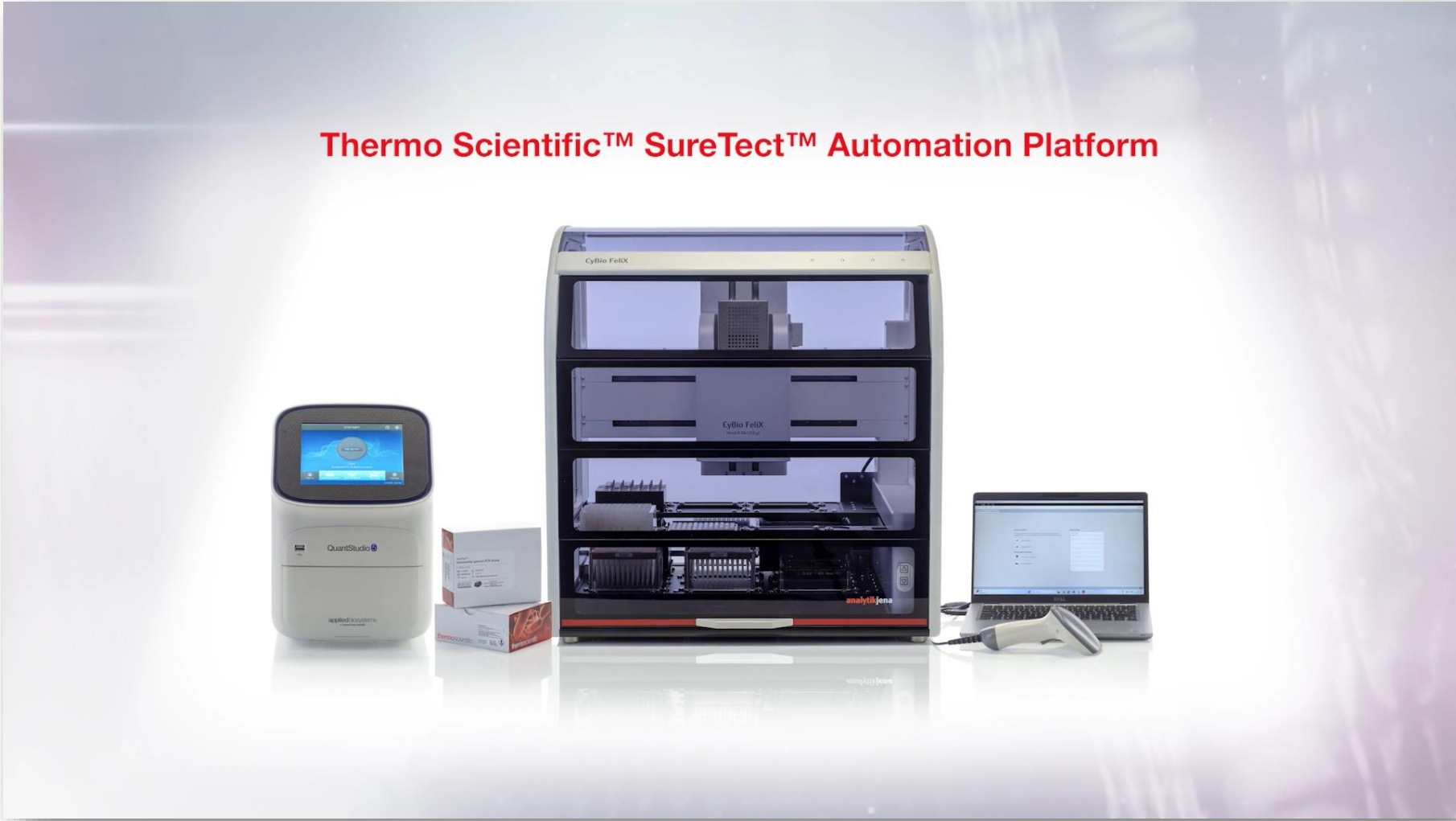
5. Reduce cross-contamination risk

6. Shortage of skilled technicians available



Introducing the SureTect Automation Workflow

Thermo Scientific™ SureTect™ Automation Platform



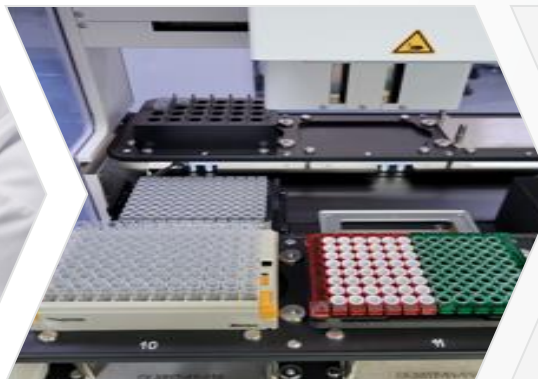
SureTect Automation Workflow steps



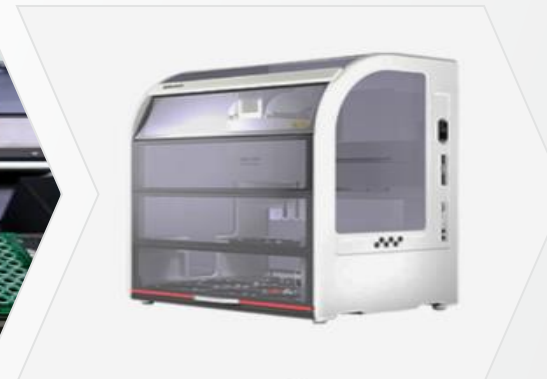
Enrichment



Add sample enrichment to sample tube



Load sample tubes, pipette tips, and reagents



Automated sample lysis & lysis and PCR setup - 40 min for 96 samples



Remove PCR tubes, seal and vortex for 10 seconds and flick to remove droplets



Run PCR ~ 80 mins for 96 samples

Only 5 minutes hands-on time (27 minutes for manual workflow) to process 96 samples

Just 1 manual pipetting step across the automation workflow

Test up to 96 samples or 6 assays in a single run

Pre-programmed runs for quick setup

SureTect Automation Workflow key benefits

Ensure maximum efficiency and reproducibility in your workflow

Intuitive Software



- User-friendly, intuitive interface
- No specialist PCR training needed
- Pre-programmed runs for quick setup

Time Saving



- Fully automated lysis and PCR setup
- Rapid 5-minute setup for loading reagents
- Walk-away automation

Flexible

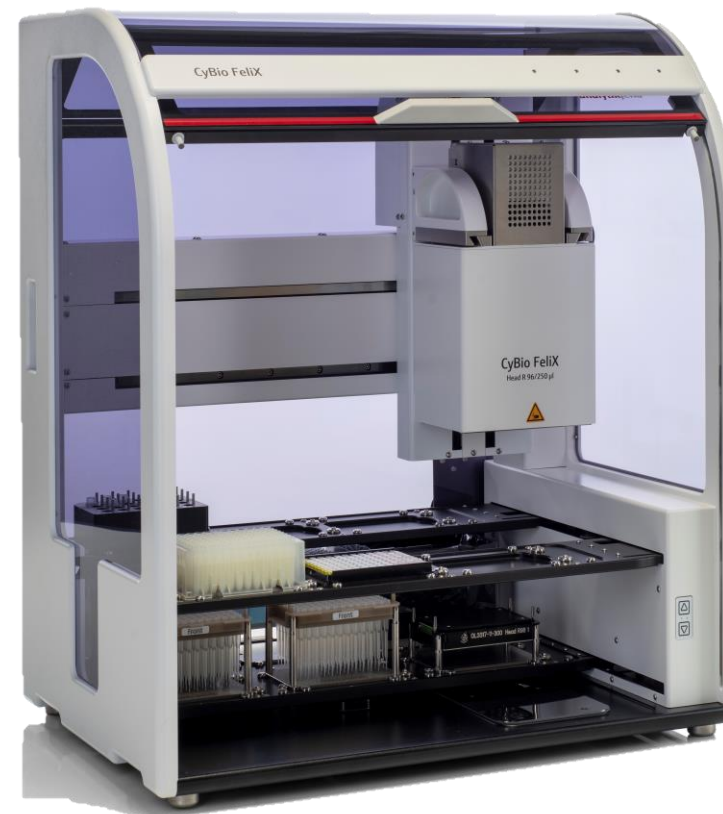


- Up to 96 samples per run
- Partial or full plate processing
- Lysis, PCR setup or the full workflow

Accurate & Traceable



- Enhanced pipetting accuracy
- Barcoded sample entry for traceability
- Fully validated system – AFNOR and AOAC



World class instrumentation for our comprehensive portfolio of food safety and quality assays

The CyBio™ FeliX Instrument enables efficient, accurate lysis and PCR preparation, ensuring maximum efficiency and reproducibility in your food testing workflow.

Choice of pipetting head options

Integrated heating and cooling block

SureTect-specific protocols

Capacity for up to 96 samples/6 assays per run

Innovative, space-saving dual-deck design

Only 58kg

Intuitive software interface

Barcoded sample entry for full traceability and LIMS compatibility

SureTect Automation Workflow head options

Flexible head options to suit every lab



Head R 96

- Up to 96 sample pipetting
- Shorter run time (around 40 minutes)
- Just 4-5 minutes hands-on time
- Full walk-away solution



CHOICE™ Head

- Simultaneous up to 8 sample pipetting
- Slightly longer run time (75 minutes)
- Just 4-5 minutes hands-on time



- ✓ Preventive Maintenance Program
- ✓ High priority service contract option
- ✓ Head Exchange Program with 1 year warranty

SureTect Food Safety PCR System instrumentation

CyBio™ FeliX Instrument for the SureTect Automation Workflow



Complete flexibility

- Automate lysis, PCR setup or the complete workflow for up to 96 samples/6 assays in a single run.
- Choice of CHOICE head for simultaneous 8-sample pipetting or the Head R 96 for 96-sample pipetting.
- Integrated heating and cooling block.



Time saving

Rapid 5-minute timeframe for loading reagents and walk-away automation. Pre-programmed runs for quick set-up.



Accurate and traceable

Enhanced pipetting accuracy, with barcoded sample entry.



Intuitive software

User-friendly interface with no specialist training required.







Fully validated

Fully validated system –AFNOR and AOAC.



SureTect Food Safety PCR System instrumentation






Applied Biosystems™ SimpliAmp™ Thermal Cycler

-  **Intuitive and easy interface**
 - Large, easy-to-use color touchscreen for easy programming and quick status checks (program once only for SureTect PCR Assay sample preparation)
-  **Flexible and open system**
 - Applied Biosystems™ VeriFlex™ Block provides three independent temperature zones for PCR optimization
-  **Cloud-enabled**
 - Conveniently access your instrument anytime, anywhere with the Connect Platform
-  **Maximize bench space**
 - Compact design helps save valuable bench space



SureTect Food Safety PCR System instrumentation

Applied Biosystems™ QuantStudio™ 5 Food Safety PCR System

-  **Intuitive and easy** to use for all levels of experience
 - Touchscreen usability, allowing you to stay connected to your data easily
-  **Multiplex with ease**—up to six excitation and six emission filters
 - 21 different color combinations, allowing a broad range of detection chemistries and maximum multiplexing
-  **Get up and running quickly**—factory-calibrated for accuracy, quick installation, and immediate use
 - Preoptimized protocol templates help minimize training for new users
-  **Maximize benchtop space**—compact instrument can be configured as a stand-alone or with a computer
-  **Open instrument**—suitable for all our food safety, authenticity, and quality PCR tests.
 - Cloud-enabled, offering the potential for data sharing, analysis and trending
 - Capacity for processing several hundred samples a day



SureTect Food Safety PCR System Software

Thermo Scientific™ RapidFinder™ Analysis Software v3.0



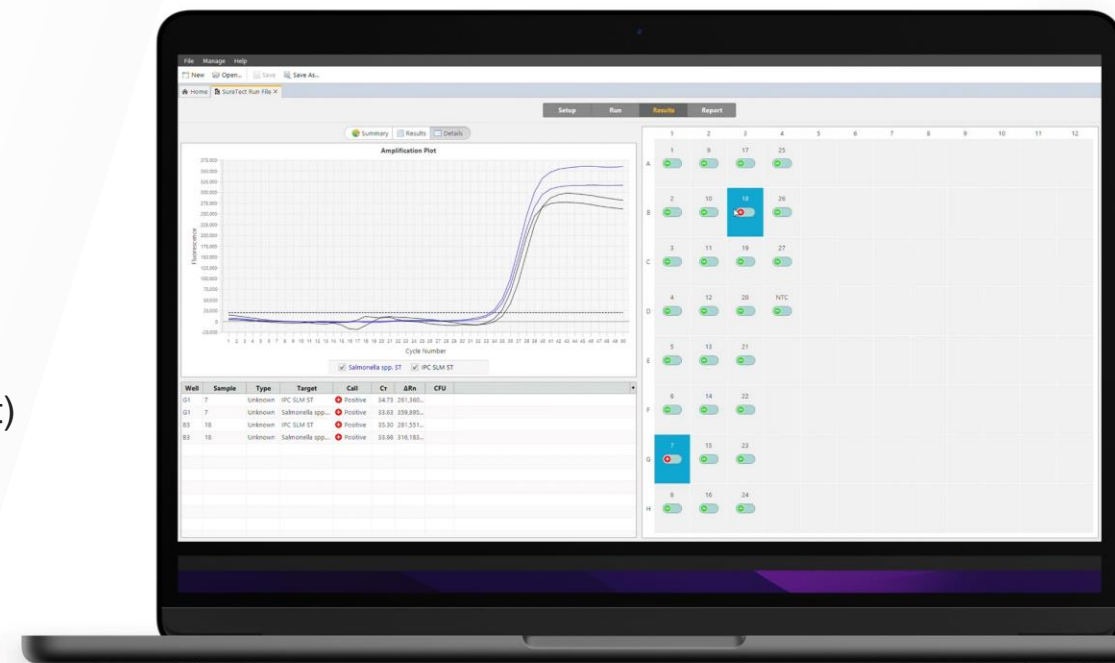
Simple set-up

- Intuitive sample set-up
- Flexible plate layout
- Pre-set, optimized thermal cycling conditions per target
- Interrogation of results for the whole plate, grouped by sample, or for individual PCR tubes



Automatic data interpretation

- Automatically generates results (presence or absence of the target)
- Quick interpretation of data with flags, notifications, and prompts
- Detailed report generation for printing or export
- Interoperability with LIMS or similar data management tool for importing plate set-up and exporting assay results



Ease of use from kit files and ease of data interpretation
–red or green light

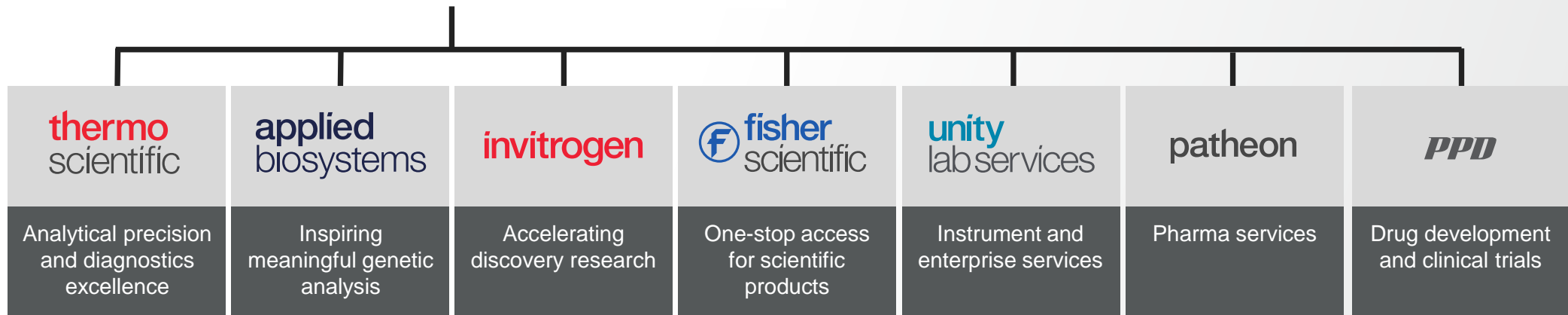
Visibly simple food pathogen testing

Thermo Scientific™ SureTect™ PCR System—
simple, rapid workflows designed to get results

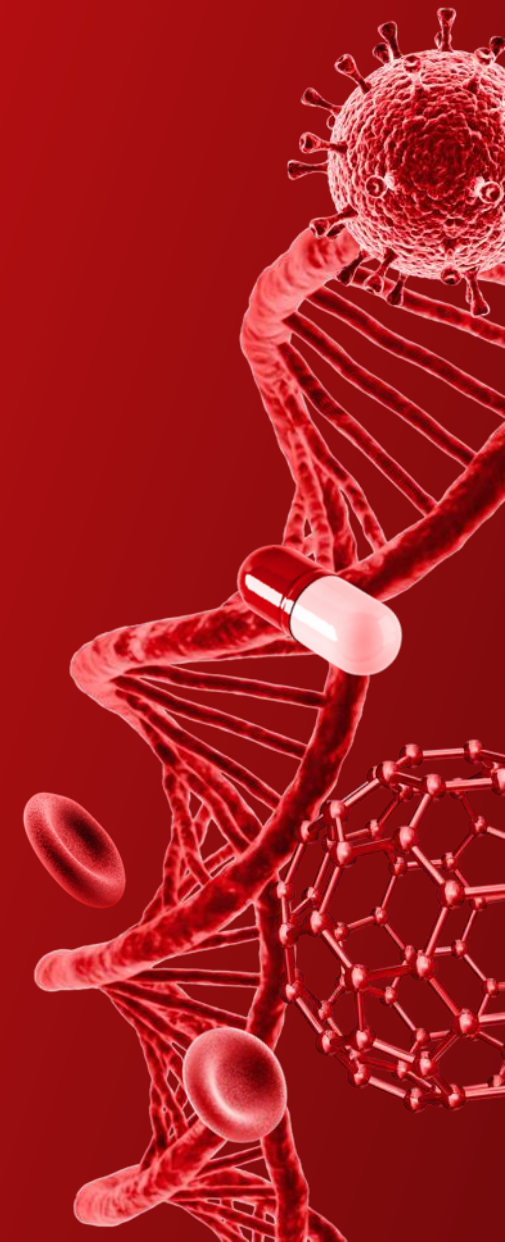
Our leading scientific products, services and workflow solutions

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serving science

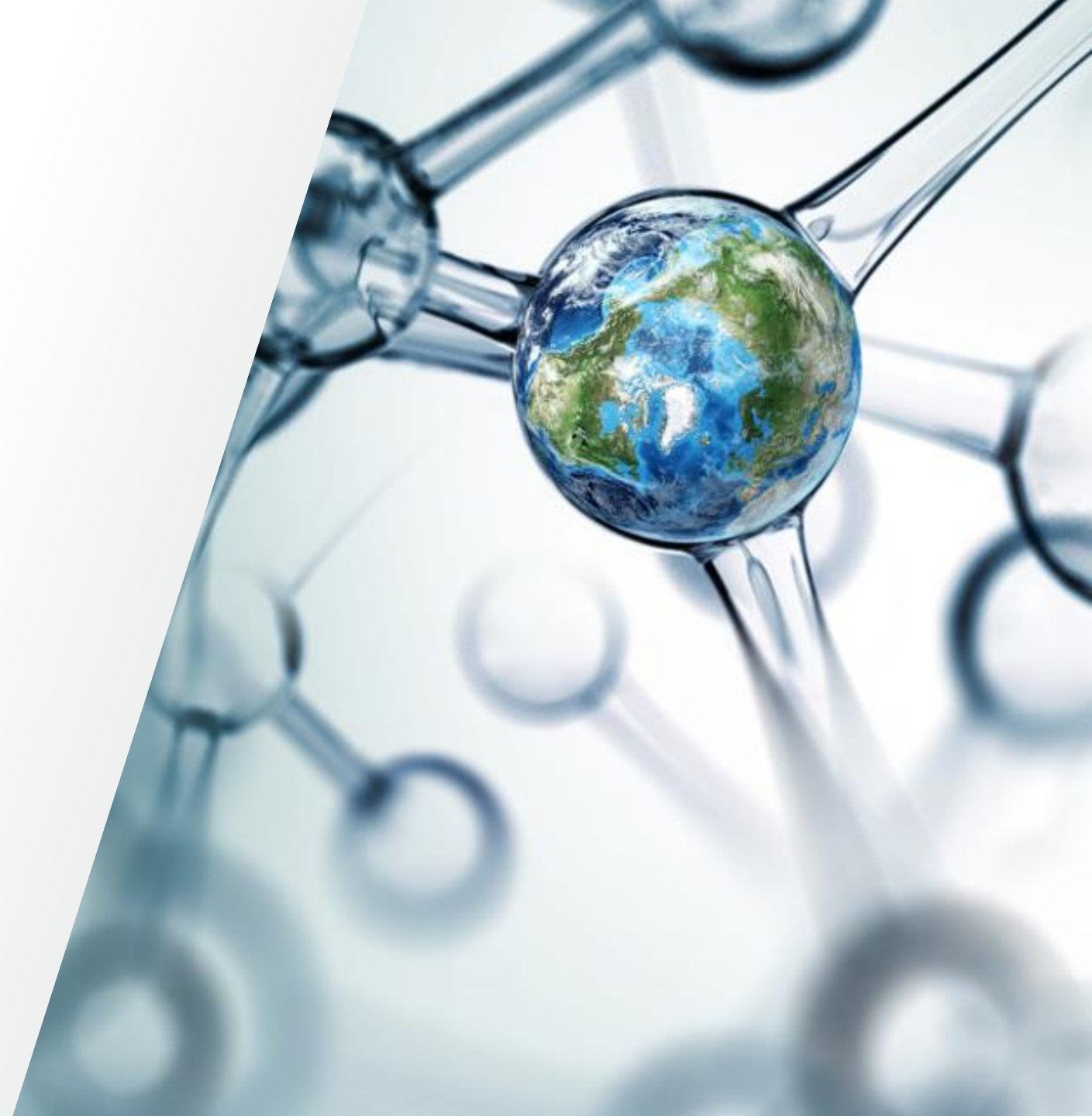


Thank you



Appendix (A):

 The world leader in serving science



Ordering Information: SureTect Assays and Instrumentation

Product	SKU
Thermo Scientific SureTect Salmonella species Assay	A56841
Thermo Scientific SureTect Listeria species Assay	A56842
Thermo Scientific SureTect L. monocytogenes Assay	A56843
Thermo Scientific SureTect Escherichia coli O157:H7 Assay	A56844
Thermo Scientific SureTect Cronobacter species assay	A56845
Thermo Scientific RapidFinder Salmonella species, Typhimurium and Enteritidis Multiplex	A56846
Thermo Scientific SureTect Escherichia coli O157:H7 and STEC Screening PCR Assay	A56838
Thermo Scientific SureTect Escherichia coli STEC Identification PCR Assay	A56840
Thermo Scientific SureTect Campylobacter jejuni, C. coli and C. lari PCR Assay	A56835
Thermo Scientific SureTect Vibrio cholerae, V. parahaemolyticus and V. vulnificus PCR Assay	A56837
Thermo Scientific SureTect Staphylococcus aureus PCR Assay	A56839
Applied Biosystems Cy 5.5 calibration plate	A45218
Applied Biosystems SimpliAmp Thermal Cycler	A24811
Applied Biosystems QuantStudio 5 Food Safety 0.1ML PACKAGE, DESKTOP	A36320
Applied Biosystems QuantStudio 5 Food Safety 0.1ML PACKAGE, LAPTOP	A36328

Ordering Information: SureTect PCR Tools

Product	SKU
Thermo Scientific PCR Capping tool	A55327
Thermo Scientific Lysis tube Uncapping tool	A55328
Thermo Scientific PCR Strip Cutting Tool	A55329
Thermo Scientific 96-well PCR base	A55330
QuantStudio 5 strip plate tray (10 pack)	A55332
SimpliAmp strip plate tray (10 pack)	A55333
SimpliAmp strip plate tray cover (10 pack)	A55971
MicroAmp Adhesive Film Applicator	4333183
Lysis Tube Caps, domed (120 pack)	A56895
Thermo Scientific 96-well Pierceable seal (100 pack)	A55331
Thermo Scientific SureTect Tools Starter Pack	A56898

Ordering Information: SureTect Automation Workflow

Product	SKU
Automation Platform with CHOICE Head	A59017
Automation Platform with Head R 96	A66295
Automation CHOICE Head package	A66296
Automation Head R 96 package	A66297
SureTect™ Automation Software	A66373
Laptop (3551 W10IOT19 RC)	A49006 or equivalent
Automation Starter Pack (Includes):	A59905
Automation Lysis Tray	A59019
Automation PCR Adapter	A59018
QuantStudio™ 5 Strip Plate Tray	A55332
Thermo Scientific™ PCR Strip Cutting Tool	A55329
Thermo Scientific™ PCR Capping Tool	A55327
Sample Enrichment Tubes	A59902
Enrichment Tubes Caps	A59903
Filter Tips for SureTect™ Automation 8/96	A59033
Filter Tips for SureTect™ Automation 96	A66298
Waste Bags for SureTect™ Automation	A59034
Protective Plate for SureTect™ Automation	A66299

Validated Protocols: ISO 16140-2:2016 validation by AFNOR Certification (NF Validation)



Pathogen	Matrices
<i>Salmonella</i> spp.	<ul style="list-style-type: none"> • 25g: All food • 25g: PIF • Environmental samples • 25g: All meat • 375g: All meat • 375g: Milk powder, PIF and ingredients • 375g: Cocoa-based products • 375g: Fruits and vegetables • 150g Animal feed
<i>Listeria</i> spp. and <i>L.mono</i>	<ul style="list-style-type: none"> • 25g: All food • Environmental samples
<i>E.Coli</i> O157:H7	<ul style="list-style-type: none"> • 25g: Beef meat • 25g: Fruits and vegetables
STEC	<ul style="list-style-type: none"> • 25g : Raw meat (ex-poultry) • 375g : Raw meat (ex-poultry) • 25g: Fruits and vegetables • 375g: Fruits and vegetables • 25g: All dairy
<i>Cronobacter</i> spp.	<ul style="list-style-type: none"> • 10g:PIF • Environmental samples • 375g: Milk powder, PIF and ingredients
<i>Salmonella</i> multiplex	<ul style="list-style-type: none"> • 25g: Raw and RTE/Pork and poultry • Environmental samples • PPS (with KF Flex)

Validated Protocols: AOAC Official Methods of Analysis (OMA)



Pathogen	Matrices
<i>C. jejuni, C.coli, and C. lari</i>	<ul style="list-style-type: none"> • POULTRY: 325g Ground turkey, Chicken thighs (Raw, with skin), Chicken carcass rinse • POULTRY: 4x4 inch Turkey carcass (sponge) • POULTRY: 25g Chicken nuggets
<i>E.Coli O157:H7</i>	<ul style="list-style-type: none"> • 375g Ground beef (20% fat), beef trim • 25g Spinach (Raw, fresh), Apple juice
STEC screening and ID	<ul style="list-style-type: none"> • 375g Spinach (Raw, fresh) • 25g Ground beef, spinach (Raw, fresh), Tomatoes (Cut, fresh) • 375g Beef trim • 375g Ground beef
<i>Listeria spp. and L.mono</i>	<ul style="list-style-type: none"> • 25 g Ground beef, Pork frankfurters, Turkey (Sliced, cooked), Spinach (raw), Cantaloupe melon, Cheese (processed), Salmon (smoked), Prawns (cooked), Ice cream, Ground pork, Lettuce (bagged), Ground Turkey, Ham (Sliced, cooked), Fish (Raw, white), Raw pork sausage, Brie, Pasteurised 2% fat milk, • 25g Blue cheese, Cottage cheese, Greek Yoghurt • 1x1 inch stainless steel surface (swab), plastic surface (swab) • 4x4 inch stainless steel surface (swab), plastic surface swab), sealed concrete surface (sponge) • Ceramic tile surface (sponge) • 25g Salami
<i>Salmonella Enteritidis, Typhimurium and spp.</i>	<ul style="list-style-type: none"> • 25g Chicken wings (Raw, with skin), Chicken thighs (Raw, with skin), Chicken nuggets, Raw pork sausage, Stainless steel surface (sponge) • 30mL Chicken carcass rinse • 375g Ground turkey (KF kit only) • X20 shell eggs
<i>Salmonella spp.</i>	<ul style="list-style-type: none"> • 25g Cantaloupe melon, Chilled pizza dough, Dry Dog Food, Peanut Butter, Pork Frankfurters, Lettuce (bagged), Shrimp (cooked), Ice Cream, pasteurized 2% fat milk, ground pork, RTE meal (containing beef), wet cat food, Chicken breast (raw), Cabbage (cut), Mango (cut), Cheddar cheese (grated), Feta Cheese, Cream, Black peppercorns • 25g Non-Fat Dried milk, pasteurised liquid whole egg • 25g Chocolate

Validated Protocols: AOAC Official Methods of Analysis (OMA)



Pathogen	Matrices
<i>Salmonella</i> spp. (continued)	<ul style="list-style-type: none"> • 1x1 inch plastic surface (swab) • 1x1 inch stainless steel surface (swab) • 375g Chocolate (dark, >70%), Cocoa powder • 375g Cocoa Liquor, Cocoa butter • 25g Sprouted seeds • 25g Ground beef • 375g Ground beef (20% fat), Beef trim • 375g Spinach (raw, fresh) • 25g Non-fat fried milk, Pasteurized liquid whole egg • 4x4inch plastic surface (swab) • 4x4 inch stainless steel surface (swab)
<i>S.aureus</i>	<ul style="list-style-type: none"> • DAIRY: 100g Edam cheese, Mozzarella cheese, Powdered Infant Formula (PIF), Whey Protein Concentrate, Whole Milk Powder
<i>Vibrio cholerae</i>, <i>Vibrio parahaemolyticus</i> and <i>Vibrio vulnificus</i>	<ul style="list-style-type: none"> • SEAFOOD: 50g Salmon roll with cream cheese • SEAFOOD: 50g Raw Tuna, Raw Mussels, Green Lipped Mussel Extract (Processed Powder) • SEAFOOD: 125g Cooked Shrimp
Surecount <i>Salmonella</i> spp., <i>Typhimurium</i> and <i>Enteritidis</i> Red= not certified	<ul style="list-style-type: none"> • 30ml: 1 whole chicken carcass + 400 ml BPW • 30ml: 4lbs (=1,8kg) chicken parts + 400 ml BPW • 30ml: 325g ground turkey + 1,625 ml BPW • 30ml: 1 whole In production carcass + 400 ml BPW • 30ml: (325g raw ground beef/pork + 975 mL mTSB) • 1 bootstock + 100ml BPW, 30 min, 30 ml